List of Pending Claims

U.S. Patent Appl. No.: 10/657, 692

Submitted April 172006

- 1. (Pending) An organic acid incorporated edible antimicrobial film comprising:
 - (a) 7.0 to 16.5 grams w/w protein;
 - (b) 0.63 to 1.5 grams w/w glycerol; and
 - (c) 1.82 to 4.3 grams w/w organic acid.
- 2. (Pending) The edible film according to claim 1, wherein said protein is selected from the group consisting of soy, whey, rice bran extract, egg albumen and wheat protein.
- 3. (Pending) The edible film according to claim 1, wherein said protein is soy protein.
- 4. (Pending) The edible film according to claim 3, wherein said protein is present in a concentration of 10% weight.
- 5. (Pending) The edible film according to claim 1, wherein said glycerol is present in a concentration of 0.9% weight.
- 6. (Pending) The edible film according to claim 1, wherein said organic acid is selected from a group consisting of citric acid, lactic acid, malic acid and tartaric acid.
- 7. (Pending) The edible film according to claim 1, wherein said organic acid is malic acid.
- 8. (Pending) The edible film according to claim 7, wherein said malic acid is present in a concentration of 2.6% weight.
- 9. (Pending) An organic acid incorporated edible antimicrobial film comprising:

- (a) 1.5 to 7.5 grams w/w hydrocolloid;
- (b) 0.14 to 0.68 grams w/w glycerol; and
- (c) 0.40 to 1.95 grams w/w organic acid.
- 10. (Pending) The edible film according to claim 9, wherein said hydrocolloid is selected from the group consisting of carboxymethyl cellulose, alginate, caragenan and pectin.
- 11. (Pending) The edible film according to claim 9, wherein said hydrocolloid is carboxymethyl cellulose.
- 12. (Pending) The edible film according to claim 10, wherein said carboxymethyl cellulose is a concentration of 1.5% weight.
- 13. (Pending) The edible film according to claim 9, wherein said glycerol is present in a concentration of 0.9% weight.
- 14. (Pending) The edible film according to claim 9, wherein said organic acid is selected from a group consisting of citric acid, lactic acid, malic acid and tartaric acid.
- 15. (Pending) The edible film according to claim 9, wherein said organic acid is malic acid.
- 16. (Pending) The edible film according to claim 15, wherein said malic acid is present in a concentration of 2.6% w/w.
- 17. (Pending) The edible film according to claim 1 or 9, wherein said film is capable of inhibiting pathogens selected from the group consisting of *Listeria monocytogens*, Salmonella gaminara and E. coli 0157:H7.
- 18. (Withdrawn) A method for making an organic acid incorporated edible antimicrobial film solution comprising the steps of:

- (a) mixing protein in water wherein said protein is present in a weight ratio ranging from 7.0 to 16.5;
- (b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.63 to 1.5;
- (c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution; and
- (d) adding organic acid to said solution wherein said organic acid is present in a weight ratio ranging from 1.82 to 4.3
- (Withdrawn) The method according claim 18, wherein said mixture is heated to 85°
 C for 30 minutes.
- 20. (Withdrawn) The method according claim 18, further comprising lowering the pH of said solution to a pH of about 3.3.
- 21. (Withdrawn) The method according claim 18, further comprising lowering the pH of said solution to a pH of about 3.3 using malic acid.
- 22. (Withdrawn) The edible film according to claim 18, wherein said organic acid is selected from a group consisting of citric acid, lactic acid, malic aicd and tartaric acid.
- 23. (Withdrawn) The method according claim 18, wherein said organic acid is malic acid.
- 24. (Withdrawn) The method according claim 23, wherein said malic acid is present in a concentration of 2.6% weight.
- 25. (Withdrawn) The method according claim 18, wherein said protein is selected from a group consisting of soy, whey, rice bran extract, egg albumen and wheat protein.
- 26. (Withdrawn) The method according claim 18, wherein said protein is soy protein.

- 27. (Withdrawn) The method according claim 26, wherein said soy protein is present in a concentration of 10% weight.
- 28. (Withdrawn) A method for making an organic acid incorporated edible antimicrobial film solution comprising the steps of:
 - (a) mixing hydrocolloid in water wherein said hydrocolloid is present in a weight ratio ranging from 1.5 to 7.5;
 - (b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.14 to 0.68;
 - (c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution; and
 - (d) adding organic acid to said solution wherein said organic acid is present in a weight ratio ranging from 0.40 to 1.95.
- (Withdrawn) The method according claim 28, wherein said mixture is heated to 85°
 C for 30 minutes.
- 30. (Withdrawn) The method according claim 28, further comprising lowering said solution to a pH of about 3.3.
- 31. (Withdrawn) The method according claim 28, further comprising lowering said solution to a pH of about 3.3 using malic acid.
- 32. (Withdrawn) The method according claim 28, wherein said glycerol is present in a concentration of 0.9% weight.
- 33. (Withdrawn) The method according claim 28, wherein said organic acid is selected from a group consisting of citric acid, lactic acid, malic acid and tartaric acid.
- (Withdrawn) The method according claim 28, wherein said organic acid is malic acid.

- 35. (Withdrawn) The method according claim 34, wherein said malic acid is present in a concentration of 2.6% weight.
- 36. (Withdrawn) The method according claim 28, wherein said hydrocolloid is selected from a group consisting of carboxymethyl cellulose, alginate, caragenan and pectin.
- 37. (Withdrawn) The method according claim 28, wherein said hydrocolloid is carboxyl methylcellulose.
- 38. (Withdrawn) The method according claim 37, wherein said carboxymethyl cellulose is present in a concentration of 1.5% weight.
- 39. (Withdrawn) A method for coating comestible products with an organic acid incorporated edible antimicrobial film solution without masking the color comprising the steps of:
 - (a) mixing hydrocolloid in water wherein said protein is present in a weight ratio ranging from 1.5 to 7.5;
 - (b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.14 to 0.68;
 - (c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution;
 - (d) adding organic acid to said solution wherein said organic acid is present in a weight ratio ranging from 0.40 to 1.95; and
 - (e) applying said solution to comestible product in arrange of 8 40 μm.
- (Withdrawn) The method according claim 39, wherein said mixture is heated to 85°
 C for 30 minutes.
- 41. (Withdrawn) The method according claim 39, further comprising lowering said solution to a pH of about 3.3.

- 42. (Withdrawn) The method according claim 39, further comprising lowering said solution to a pH of about 3.3 using malic acid.
- 43. (Withdrawn) The method according claim 39, wherein said glycerol is present in a concentration of 0.9% weight.
- 44. (Withdrawn) The method according claim 39, wherein said organic acid is selected from a group consisting of citric acid, lactic acid, malic acid and tartaric acid.
- 45. (Withdrawn) The method according claim 39, wherein said organic acid is malic acid.
- 46. (Withdrawn) The method according claim 45, wherein said malic acid is present in a concentration of 2.6% weight.
- 47. (Withdrawn) The method according claim 39, wherein said hydrocolloid is selected from a group consisting of carboxymethyl cellulose, alginate, caragenan and pectin.
- 48. (Withdrawn) The method according claim 39, wherein said hydrocolloid is carboxyl methylcellulose.
- 49. (Withdrawn) The method according claim 48, wherein said carboxymethyl cellulose is present in a concentration of 1.5% weight.
- 50. (Withdrawn) A method for coating comestible products with an organic acid incorporated edible antimicrobial film solution comprising the steps of:
 - (a) mixing protein in water wherein said protein is present in a weight ratio ranging from 7.0 to 16.5;
 - (b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.63 to 1.5;

- (c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution;
- (d) adding organic acid to said solution wherein said organic acid is present in a weight ratio ranging from 1.82 to 4.3; and
- applying said solution to comestible product in a range of 10-168 μm.
- (Withdrawn) The method according claim 50, wherein said mixture is heated to 85°
 C for 30 minutes.
- 52. (Withdrawn) The method according claim 50, further comprising lowering said solution to a pH of about 3.3.
- 53. (Withdrawn) The method according claim 50, further comprising lowering said solution to a pH of about 3.3 using malic acid.
- 54. (Withdrawn) The method according claim 50, wherein said organic acid is selected from a group consisting of citric acid, lactic acid, malic acid and tartaric acid.
- 55. (Withdrawn) The method according claim 50, wherein said organic acid is malic acid.
- 56. (Withdrawn) The method according claim 55, wherein said malic acid is present in a concentration of 2.6%.
- 57. (Withdrawn) The method according claim 50, wherein said protein is selected from a group consisting of soy, whey, rice bran extract, egg albumen and wheat protein.
- 58. (Withdrawn) The method according claim 50, wherein said protein is soy protein.
- 59. (Withdrawn) The method according claim 58, wherein said protein is present in a concentration of 10% weight.

- 60. (Withdrawn) A method for coating comestible products with an edible antimicrobial film solution without masking the color comprising the steps of:
 - (a) mixing hydrocolloid in water wherein said protein is present in a weight ratio ranging from 1.5 to 7.5;
 - (b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.14 to 0.68;
 - (c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution; and
 - (d) applying said solution to comestible product in a range of 8 40 μm.
- 61. (Withdrawn) The method according claim 60, wherein said mixture is heated to 85° C for 30 minutes.
- 62. (Withdrawn) The method according claim 60, wherein further comprising lowering the pH of said solution to a pH of about 3.3.
- 63. (Withdrawn) The method according claim 60, wherein further comprising lowering the pH of said solution to a pH of about 3.3 using malic acid.
- 64. (Withdrawn) The method according claim 60, wherein said glycerol is present in a concentration of 0.9% weight.
- 65. (Withdrawn) The method according claim 60, wherein said hydrocolloid is selected from a group consisting of carboxymethyl cellulose, alginate, caragenan and pectin.
- 66. (Withdrawn) The method according claim 60, wherein said hydrocolloid is carboxy methylcellulose.
- 67. (Withdrawn) The method according claim 66, wherein said carboxymethyl cellulose is present in a concentration of 1.5% weight.

- 68. (Withdrawn) A method for coating comestible products with an edible antimicrobial film solution without masking the color comprising the steps of:
 - (a) mixing protein in water wherein said protein is present in a weight ratio ranging from 7.0 to 16.5;
 - (b) adding glycerol to said mixture wherein said glycerol is present in a weight ratio ranging from 0.63 to 1.5;
 - (c) heating said mixture to 60° to 85° C for 30 minutes thereby creating a solution; and
 - (d) applying said solution to comestible product in arrange of 10–
 168 μm.
- 69. (Withdrawn) The method according claim 68, wherein said mixture is heated to 85° C for 30 minutes.
- 70. (Withdrawn) The method according claim 68, wherein further comprising lowering the pH of said solution to a pH of about 3.3.
- 71. (Withdrawn) The method according claim 68, wherein said protein is selected from a group consisting of soy, whey, rice bran extract, egg albumen and wheat protein.
- 72. (Withdrawn) The method according claim 68, wherein said protein is soy protein.
- 73. (Withdrawn) The method according claim 72, wherein said soy protein is present in a concentration of 10% weight.